REMARKS/ARGUMENTS

The present amendment is submitted in response to the Final Office Action dated August 13, 2003, which set a three-month period for response, making this amendment due by November 13, 2003.

Claims 30-39 and 43-57 are pending in this application.

In the final Office Action, claims 30, 39, 43-46, 51, and 54 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,004,622 to Yen et al in view of U.S. Patent No. 4,655,162 to Kameyama. Claims 31, 40-42, 47-50, 52-53, and 56 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al and Kameyama as applied to claims 30, 39, 43-46, 51 and 54 above, and further in view of U.S. Patent No. 6,033,135 to An et al. Claims 32 and 35 stand rejected under 35 U.S.C. 103(a) as being unpatentable over An et al, as applied to claim 31 above, and further in view of U.S. Patent No. 6,156,125 to Harada et al. Claims 52 and 53 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al and Kameyama as applied to claims 30, 39, 43-46, 51 and 54 above, and further in view of Harada. Claim 36 was rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al and Kameyama as applied to claims 30, 39, 43-46, 51 and 54 and further in view of U.S. Patent No. 5,188,150 to Tomita et al. Claims 37 and 38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yen et al and Kameyama as applied to claims 30, 39, 43-46, 51 and 54 and further in view of U.S. Patent No. 5,656,082 to Takatsuki et al.

The Applicants note with appreciation the indicated allowability of claims 33-34, 55 and 57 if rewritten in independent form to include the limitations of the base claim

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and any intervening claims.

In the present amendment, the Applicants have amended claim 30 to add the features of claims 40, 41, and 42, all of which have been canceled. Specifically, amended claim 30 now defines the notch provided in an outer region of a portion of said cover that defines a chamber, wherein said notch tapers outwardly, and wherein said notch is inclined on a side thereof that faces said substrate holder. Claim 45 now depends from amended claim 30.

Claim 51 has been similarly amended and also defines that the cover conveys away from the region of the substrate and the substrate holder residual material, due to the centrifugal forces resulting during the rotation of the substrate holders and the cover.

Support for these amendments can be found in the specification on page 5, last paragraph and in the paragraph bridging pages 14-15.

The Applicants respectfully disagree that the cited combination of the Yen and Kameyama patents render obvious the subject matter of independent claims 30 and 51.

Yen discloses a device for coating a substrate, which has a rotatable substrate holder, on which a substrate to be coated is placed with the surface to be coated facing upward. The substrate holder is coupled via a shaft with a motor, in order to be rotated thereby.

In addition, a cover is provided, which is movably in contact with the substrate holder, in order to form therewith a chamber for receiving the substrate. The cover is coupled via a shaft with a further motor, in order to be rotated thereby.

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With the device according to Yen, during the coating of the substrate, an expensive synchronization of the rotation of the substrate holder with the rotation of the cover is necessary, since each element, respectively, is driven by its own motor. When a corresponding synchronization does not take place, friction between the elements can occur, which produces wear, and in addition, the integrity of the chamber formed therebetween is impaired.

In order to avoid this type of synchronization, with the present invention, a cover is provided, which can be attached to a substrate holder, in such a way that it is freely rotatable therewith. In operation, then, a fixed connection between the cover and the substrate holder is formed. The cover, then, is automatically commonly and synchronously rotated with the substrate holder, if this is rotated.

In this regard, amended claim 30 differs markedly in the point of the attachment of the cover to the substrate holder from the device according to Yen et al. In addition, the device of Yen et al also differs with regard to the orientation of the substrate from the device of the present invention.

In addition, with the device according to Yen et al, the problem exists that material residue, which is thrown off during the rotating-coating process from the substrate, contacts the substrate holder and collects in this, which can impair subsequent coating processes and additionally is associated with the risk of a contamination of the underside of the substrate.

The danger of contamination of a back side by sloughed off material residue is resolved by the present invention, in that the substrate to be coated is directed downwardly and material residue is moved away based on the centrifugal force from a

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back side of the substrate.

In addition, the present invention, however, also provides a notch in the outer region of the part of the cover defining the chamber, whereby the notch tapers radially outwardly and is inclined on a side thereof that faces the substrate holder. The formation of the notch in the outer region ensures that sloughed-off material residue is conducted safely away from the region of the substrate and substrate holder by centrifugal forces occurring during rotation, in order to protect against contamination. By the inclined formation of a side of the notch, conducting away of contaminants from the substrate and the substrate holder is promoted and improved.

The feature of such a notch, however, is neither disclosed nor suggested by Yen et al, so that amended claim 30 also can be distinguished from the Yen reference.

In addition, a combination of the Yen et al and Kameyama references would not lead to the subject matter of the present invention.

The only feature of Kameyama which appears to be relevant to claim 30 is the arrangement of the substrate, such that a surface to be treated is oriented downwardly. Even if a practitioner were to realize this feature in the device of Yen et al, he still would not obtain the present invention as defined in claim 30.

In particular, combining the Yen and Kameyama references would not provide a cover, which is attached to a substrate holder such that it is freely rotatable therewith.

In addition, the combination of Yen and Kameyama would not provide for a notch in the outer region of the part of the cover defining the chamber, whereby the notch projects radially outwardly and is inclined on its side facing the substrate holder.

Furth r, Kameyama does not deal with a uniform coating of substrates, rather

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with a uniform treatment of substrates, so that a combination of these two documents would not be obvious to the practitioner.

Thus, the subject matter of amended claim 30 also is not obvious over the combination of the Yen and Kameyama patents.

Furthermore, the combination of Yen with Kameyama and An et al would not lead to the subject matter of amended claim 30.

An et al shows a device for treatment of semi-conductor wafers in a developer in order to remove by-products of a previous developing of the wafer.

The device has a rotatable substrate holder, as well as a container that can be filled with a developer with a container cover. For treating the wafer, developer is conducted into the container and the rotatable substrate holder with a wafer W located thereon is introduced through an upper opening of the container cover into the container, in order to submerge the wafer, or at least the underside of the wafer, into the developer.

Thus, the rotatable substrate holder is not engaged in any manner with the container, and also the wafer W is held spaced from a floor of the container, since the wafer could be damaged otherwise.

Thus, the device according to An et al differs substantially from the above-noted devices, so that the practitioner would obtain no suggestion or teaching to combine these references as suggested.

If a practitioner were to combine the references as proposed, he would not obtain the present invention as defined in amended claim 30. In particular, such a reference combination would not provide a cover that can be attached to a substrate holder in

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such a way that it is freely rotatable therewith.

In addition, this combination of references would not provide a notch in the outer region of the part of the cover defining the chamber, whereby the notch projects radially outward and is inclined on its side facing the substrate holder.

The above arguments also apply to amended claim 51, since amended claim 51 includes the same limitations.

For the reasons set forth above, the Applicants respectfully submit that claims 30-39 and 43-57 are patentable over the cited references. The Applicants further request withdrawal of the final rejection and reconsideration of the claims as herein amended.

In light of the foregoing arguments in support of patentability, the Applicants respectfully submit that this application stands in condition for allowance. Action to this end is courteously solicited.

Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

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Respectfully Submitted,

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